

AMENDMENTS TO THE SPECIFICATION:

Please REPLACE the following paragraphs with those indicated below:

On page 3, replace paragraph 12 with:

FIG. 5 is a side ~~cross-section~~elevation view of the encapsulated vacuum interrupter of FIG. 2 with the vacuum chamber removed and showing the voltage screens and semi-conductive coating to the vacuum chamber.

On pages 5-6, replace paragraph 19 with:

Bushings 170 are formed by encapsulating the conductive leads in the dielectric encapsulation 190. As shown in FIG. 4, a current sensing device 230, such as a current transformer (i.e., CT), may be molded into the dielectric encapsulation to sense fault currents and the like in order to actuate the vacuum interrupter 100. Current sensing device 230 may be in communication with an electronic control system or relay (not shown) which determines if a fault is present in the electric circuit and may operate a motor, solenoid, or the like to actuate operating lever 160 to disengage the moveable contact 130 from fixed contact 120, thereby interrupting a current through the vacuum interrupter 100. When the contacts are disengaged from each other, a potential difference exists therebetween in the open gap which, depending on the power distribution system voltage level, can range from 4 kv to 34 kv. Since the semiconductive outer layer 200 of the vacuum interrupter 100 is at ground potential when installed in a shielded distribution system, the grounded surface in close proximity to the vacuum chamber 110 causes a severe electric field distortion inside the vacuum interrupter 100 which significantly reduces the withstand capability of the open gap. Referring to FIG. 6, a finite element analysis of a shielded encapsulated vacuum interrupter is shown. Movable contact 130 is disengaged from fixed contact 120 and an open gap exists therebetween. Electric field density lines 300 in the vacuum interrupter 100 show a distorted distribution as they tend toward ground potential.

On page 6, replace paragraph 21 with:

The two opposing voltage screens substantially enclose vacuum chamber 110, but leave a central portion exposed. As shown in FIG. 5, the central exposed portion of vacuum chamber 110 includes exposed ring 115₂ which supports floating shield 105. The exposed central portion of vacuum chamber 110 is coated with a semiconductive material 240₂ which may be the same or different from the semiconductive exterior layer 200. The semiconductive material 240 may be a fluid paint, bonding agent, epoxy, or the like that has, under certain conditions, an electrically conductive property. A preferred semiconductive material is Epic S7076 manufactured by Epic Resins of Palmyra Wisconsin. Epic S7076 is a carbon-filled, electrically conductive epoxy system that can be easily applied by hand or automatic dispensing equipment.

On page 7, replace paragraph 23 with:

Referring not to FIG. 7, a finite element analysis for a vacuum interrupter with fixed voltage screen 210, movable voltage screen 220, and semiconductive material 240 applied to the vacuum chamber 110 shows that electric field density lines 300 are nearly symmetrically distributed inside the vacuum chamber in the open gap. FIG. 8 shows the identical vacuum interrupter of FIG. 7, but with voltage polarity reversed. As shown, the electric field density lines 300 remain symmetrically distributed in the open gap.